

APPARATUS FOR TRIMMING METAL

Abstract

An apparatus for trimming scrap from an aluminum sheet metal blank is provided. The apparatus includes a clamping base comprising a clamping base upper surface, a clamping base bottom surface, and a clamping base engagement surface. The clamping base engagement surface is positioned between the clamping base upper surface and the clamping base bottom surface. The clamping base engagement surface comprises a clamping base vertically orientated portion perpendicular to the clamping base upper surface, and a clamping base angled portion intersecting said clamping base upper surface at an obtuse intersection angle. The apparatus further includes a steady blade mounted to the clamping base. The steady blade includes a steady blade mounting surface coincident with the clamping base vertically orientated portion, a vertically orientated steady blade blade-side surface, and a steady blade engagement surface angled to be substantially coplanar with the clamping base angled portion such that the steady blade and the clamping base form a contiguous angled engagement surface. The steady blade engagement surface inter-

sects the vertically orientated steady blade blade-side surface to form a steady blade trimming edge. The apparatus includes an elastic scrap support comprising a support upper surface parallel and contiguous with the contiguous angled engagement surface. The apparatus includes an upper clamping element comprising an upper clamping engagement surface parallel with the contiguous angled engagement surface. The upper clamping engagement surface is positioned to engage an aluminum blank positioned between the upper clamping element and the contiguous angled engagement surface. The upper clamping element is positioned such that the upper clamping engagement surface is positioned partly over the clamping base angled portion and partially over the steady blade engagement surface. The apparatus includes a moving blade movable past the steady blade for trimming said aluminum blank. The moving blade comprises a moving blade blade-side surface parallel to the steady blade blade-side surface, a moving blade engagement surface generally parallel with the contiguous angled engagement surface, and a moving blade trimming edge formed by the intersection of the moving blade blade-side surface and the moving blade engagement surface. The moving blade engagement surface distributing strain on the aluminum blank as the moving blade trimming edge separates the scrap element from the aluminum blank.